

## WEST Search History

DATE: Friday, December 13, 2002

### Set Name Query

side by side

### Hit Count Set Name

result set

*DB=USPT; PLUR=YES; OP=OR*

L12	(battery and gel and electrolyte).clm. and (gelling adj agent)	30	L12
L11	(battery and gel and electrolyte) and (gelling adj agent)	250	L11
L10	(battery and gel and electrolyte) and silica.clm.	136	L10
L9	(battery and gel and electrolyte) and silica	617	L9
L8	(battery and gel and electrolyte).ti.	14	L8
L7	(battery and gel and electrolyte).clm. and phosphate.clm.	11	L7
L6	(battery and gel and electrolyte).clm. and intramolecular	1	L6

*DB=EPAB; PLUR=YES; OP=OR*

L5	(battery and gel and electrolyte).clm. and intramolecular	0	L5
L4	schoonbeek	1	L4

*DB=DWPI; PLUR=YES; OP=OR*

L3	schoonbeek	2	L3
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*DB=USPT; PLUR=YES; OP=OR*

L2	schoonbeek	0	L2
L1	schoonbeek.in.	0	L1

END OF SEARCH HISTORY

**WEST****End of Result Set**

Generate Collection

Print

L2: Entry 1 of 1

File: EPAB

Jun 23, 1999

PUB-NO: EP000924724A2

DOCUMENT-IDENTIFIER: EP 924724 A2

TITLE: Photoelectric conversion device and photo-electrochemical cell

PUBN-DATE: June 23, 1999

## INVENTOR-INFORMATION:

NAME

SHIRATSUCHI, KENTARO

YANAGIDA, SHOZO

SHIRAI, HIROFUSA

HANABUSA, KENJI

COUNTRY

JP

JP

JP

JP

## ASSIGNEE-INFORMATION:

NAME

FUJI PHOTO FILM CO LTD

COUNTRY

JP

APPL-NO: EP98122973

APPL-DATE: December 3, 1998


PRIORITY-DATA: JP36350397A (December 16, 1997)

US-CL-CURRENT: 257/E51.016; 257/E51.047

INT-CL (IPC): H01 G 9/20

EUR-CL (EPC): H01G009/20; H01G009/20, H01L051/20 , H01L051/30

## ABSTRACT:

CHG DATE=19990803 STATUS=O> A dye-sensitized photoelectric conversion device includes a conductive support, a dye-adsorbed semiconductor nanoparticulate layer, a gel electrolyte layer, and a counter electrode wherein the gel electrolyte contains an electrolyte and a gelling agent having a molecular weight of 100-1,000. The device has improved photoelectric conversion characteristics and durability. A photo-electrochemical cell comprising the photoelectric conversion device is also provided. 

FILE 'HOME' ENTERED AT 15:33:59 ON 13 DEC 2002

=> file reg

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 15:34:07 ON 13 DEC 2002

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STRUCTURE FILE UPDATES: 12 DEC 2002 HIGHEST RN 476148-76-2

DICTIONARY FILE UPDATES: 12 DEC 2002 HIGHEST RN 476148-76-2

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=>

Uploading mark.str

L1 STRUCTURE UPLOADED

=> s l1 sss sam

SAMPLE SEARCH INITIATED 15:34:42 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1230 TO ITERATE

81.3% PROCESSED 1000 ITERATIONS

50 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 22497 TO 26703

PROJECTED ANSWERS: 1166 TO 2278

L2 50 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 15:35:00 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 26030 TO ITERATE

100.0% PROCESSED 26030 ITERATIONS

1644 ANSWERS

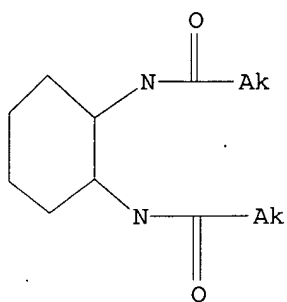
SEARCH TIME: 00.00.03

L3 1644 SEA SSS FUL L1

=> d l1 1-10

L1 HAS NO ANSWERS

L1 STR

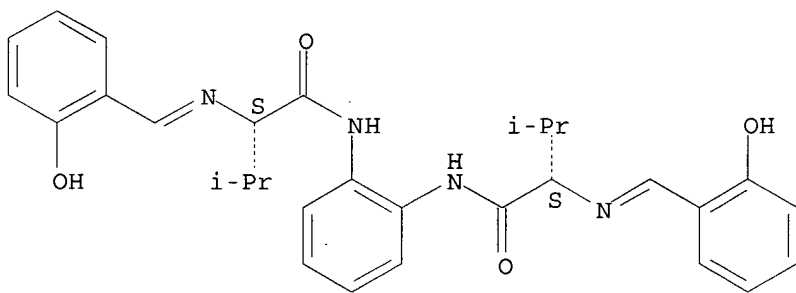


Structure attributes must be viewed using STN Express query preparation.

=> d 1-2

L3 ANSWER 1 OF 1644 REGISTRY COPYRIGHT 2002 ACS  
 RN 471283-21-3 REGISTRY  
 CN Butanamide, N,N'-1,2-phenylenebis[2-[[2-hydroxyphenyl)methylene]amino]-3-methyl-, (2S,2'S)-(9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C30 H34 N4 O4  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry unknown.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1962 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 2 OF 1644 REGISTRY COPYRIGHT 2002 ACS  
 RN 471283-20-2 REGISTRY  
 CN Benzeneacetamide, N,N'-(1,2-phenylene)bis[.alpha.-[[2-hydroxyphenyl)methylene]amino]-, (.alpha.R,.alpha.'R)-(9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C36 H30 N4 O4  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry unknown.



INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 22497 TO 26703  
PROJECTED ANSWERS: 1166 TO 2278

L4 50 SEA SSS SAM L1

L5 38 L4

=> s l3

L6 731 L3

=> s l6 and electrolyte  
206736 ELECTROLYTE

L7 6 L6 AND ELECTROLYTE

=> d l7 1-6 ibib kwic

L7 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:539398 CAPLUS  
DOCUMENT NUMBER: 137:116743  
TITLE: Organic electroluminescent device  
INVENTOR(S): Okada, Hisashi; Igarashi, Tatsuya  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 2002203681	A2	20020719	JP 2000-399087	20001227
AB	The invention relates to an org. electroluminescent device, suited for use in displays, backlights, illumination sources, etc., comprising an org. compd. layer fabricated between a pair of electrodes, wherein the ionic transition metal complex and the <b>electrolyte</b> are contained in the org. compd. layer for enhancing the emission intensity, response time and durability of the device.				
ST	org electroluminescent device ionic transition metal complex <b>electrolyte</b>				
IT	33454-82-9, Lithium trifluoromethanesulfonate RL: DEV (Device component use); USES (Uses) ( <b>electrolyte</b> used in; org. electroluminescent device)				
IT	183889-37-4 RL: DEV (Device component use); USES (Uses) (gelation agent; org. electroluminescent device)				
IT	145022-44-2 RL: DEV (Device component use); USES (Uses) (molten salt used as <b>electrolyte</b> ; org. electroluminescent device)				
IT	386214-40-0D, polymer with lithium biphenylsulfonate RL: DEV (Device component use); USES (Uses) (polymer <b>electrolyte</b> ; org. electroluminescent device)				

L7 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:676478 CAPLUS  
DOCUMENT NUMBER: 135:229377

TITLE: Gel **electrolyte** precursors and batteries  
 INVENTOR(S): Hayase, Shuji; Mikoshiba, Satoru; Miyamoto, Hirohisa; Takami, Norio  
 PATENT ASSIGNEE(S): Toshiba Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001250584	A2	20010914	JP 2000-393534	20001225
US 2001023041	A1	20010920	US 2000-748007	20001227

PRIORITY APPLN. INFO.: JP 1999-374997 A 19991228

TI Gel **electrolyte** precursors and batteries

AB The batteries have a cathode, an anode, and a gel **electrolyte**, contg. an **electrolyte** soln. and a crosslinked product of an alicyclic epoxy resin or an epoxy compd., having alicyclic structure and .gtoreq.1 epoxy group/mol. The crosslinked product contains -(CR1R2CR3R4)n- units (R1, R2 = alkyl or aralkyl groups; R3, R4 = H or alkyl groups; n = natural no.), the epoxy compd. is I (R5, R6 = H or alkyl groups, R7 = C, O, SO2, or CO), the epoxy resin contain units II, and the **electrolyte** soln. contains a nonaq. solvent and a Li salt selected from LiBF4 and LiPF6. The gel **electrolyte** precursors contain the **electrolyte** soln. and gelling agent contg. the epoxy compd. and/or the alicyclic epoxy resin. Another type of the **electrolyte** is an onium salt polymer comprising a halogen contg. compd. and a N, P, or S compd. selected from R1R2CONHCHR3CONHR4 (R1 = halogen, halogenated org. group, or N, P, or S contg. group; R2 = bivalent org. group; R3 and R4 = monovalent org. group), R1R5CONHCHR6CONURNHCOR8NHCOR9R1' (R1' has same definition as R1; R6, R8 = monovalent org. groups; R7, R9 = divalent org. groups), R10NHCOCH(OH)CH(OH)CH(OH)CH2OR11R1 (R10 = monovalent org. group, R11 = bivalent org. group), III (R12, R13 = bivalent org. groups), IV (R14, R15 = -CO- or -CH2-; R16, R17 = bivalent org. groups), R1R18NHCONHR19R1' (R18, R19 = bivalent org. groups), or R1R20NHCONHR21NHCOCHR22R1' [R20, R22 = bivalent org. groups, R21 = monovalent org. group (sic)].

ST battery crosslinked alicyclic epoxy resin gel **electrolyte**

IT Epoxy resins, uses

RL: DEV (Device component use); USES (Uses)  
 (alicyclic, crosslinked; compns. of gel **electrolyte**  
 precursors and secondary lithium batteries with gel electrolytes)

IT Battery electrolytes

(compns. of gel **electrolyte** precursors and secondary lithium  
 batteries with gel electrolytes)

IT 18393-55-0D, Triphenylsulfonium, salts 57835-99-1, Triphenylsulfonium  
 hexafluorophosphate 192391-58-5, Sanaid SI 60

RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)  
 (compns. of gel **electrolyte** precursors and secondary lithium  
 batteries with gel electrolytes)

IT 96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene carbonate 553-26-4,  
 4,4'-Bipyridine 2386-87-0 13410-58-7 14283-07-9, Lithium  
 fluoroborate 15390-22-4 24806-62-0 25085-98-7D, celloxide 2021,  
 crosslinked 59333-65-2 82428-30-6 83343-61-7, Dibromohexane  
 109695-55-8 131826-14-7 151465-23-5D, celloxide 2081, crosslinked  
 269403-56-7 330628-15-4 330628-16-5 330628-19-8 359399-29-4  
 359399-30-7 359399-32-9 359399-33-0 359399-34-1  
 359399-35-2 359399-36-3 359399-37-4 359399-40-9 359399-41-0

RL: DEV (Device component use); USES (Uses)  
 (compns. of gel **electrolyte** precursors and secondary lithium  
 batteries with gel electrolytes)

ACCESSION NUMBER: 2001:225352 CAPLUS  
 DOCUMENT NUMBER: 134:240135  
 TITLE: **Electrolyte** composition and photosensitized solar cell using the **electrolyte** composition  
 INVENTOR(S): Mikoshiba, Satoshi; Sumino, Hiroyasu; Yonetsu, Maki; Hayase, Shuji  
 PATENT ASSIGNEE(S): Kabushiki Kaisha Toshiba, Japan  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1087412	A2	20010328	EP 2000-308307	20000922
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001160427	A2	20010612	JP 2000-288872	20000922
AU 739381	B2	20011011	AU 2000-61246	20000922
US 6384321	B1	20020507	US 2000-667562	20000922

PRIORITY APPLN. INFO.: JP 1999-269762 A 19990924

OTHER SOURCE(S): MARPAT 134:240135

TI **Electrolyte** composition and photosensitized solar cell using the **electrolyte** composition

AB The title **electrolyte** contains .gtoreq.1 kind of an imidazolium salt selected from the group consisting of: 1-methyl-3-Pr imidazolium iodide, 1-methyl-3-iso-Pr imidazolium iodide, 1-methyl-3-Bu imidazolium iodide, 1-methyl-3-iso-Bu imidazolium iodide, and 1-methyl-3-sec-butylimidazolium iodide, a halogen-contg. compd. dissolved in the **electrolyte**; and contg. .gtoreq.1 element selected from the group consisting of N, P, and S, the compd. being capable of forming an onium salt together with the halogen-contg. compd. The **electrolyte** is characterized in that the compd. having the .gtoreq.1 element has .gtoreq.1 kind of at. group selected from the group consisting of primary amino group, secondary amino group, tertiary amino group, and -PH2 group.

ST **electrolyte** compn photosensitized solar cell; photoelectrochem cell **electrolyte** compn; imidazolium salt photoelectrochem cell **electrolyte** compn

IT Photoelectrochemical cells  
Solar cells

(**electrolyte** compn. for photosensitized solar cell and method of fabricating photosensitized solar cell)

IT Polybenzimidazoles

RL: DEV (Device component use); USES (Uses)

(**electrolyte** compn. for photosensitized solar cell and method of fabricating photosensitized solar cell)

IT 352-93-2, Diethylsulfide 553-26-4, 4,4'-Bipyridyl 629-03-8, 1,6-Dibromohexane 631-40-3, Tetrapropylammonium iodide 1618-26-4, Bis(methylthio)methane 2524-47-2D, bromoalkyl derivs. 4097-89-6, Tris(2-aminoethylamine) 6737-42-4, 1,3-Bis(diphenylphosphino)propane 7681-11-0, Potassium iodide, uses 9003-47-8, Polyvinyl pyridine 13128-01-3D, chloroalkylcarboxylic acid amide derivs. 13623-94-4, 1,1-Bis(methylthio)-2-nitroethylene 15442-91-8, 1,2,4,5-Tetrakis(bromomethyl)benzene 20461-95-4, Ethyl(bis-ethylthio)acetate 25154-86-3, Polydimethylaminoethyl methacrylate 25232-41-1, Poly(4-vinylpyridine) 25232-42-2, Polyvinylimidazole 27721-02-4, 1,5-Bis(diphenylphosphino)pentane 29503-30-8 30551-89-4, Polyallylamine 30674-80-7, 2-Isocyanatoethylmethacrylate 53823-35-1 55553-13-4, Polydiallylmethylamine 65039-05-6, 1-Methyl-3-butylimidazolium iodide 72847-58-6, Terpyridine 80510-04-9 106519-56-6 119171-18-5, 1-Methyl-3-propylimidazolium iodide



119171-19-6, 1-Methyl-3-isopropylimidazolium iodide 330628-11-0,  
 1-Methyl-3-isobutyl imidazolium iodide 330628-12-1, 1-Methyl-3-sec-  
 butylimidazolium iodide 330628-14-3 330628-15-4 330628-16-5  
 330628-17-6 330628-18-7 330628-19-8 330628-20-1  
 330628-21-2 330628-23-4D, iodoalkylcarboxylic acid esters.  
 330628-24-5D, bromoalkyl derivs. 330628-25-6D, bromoalkyl  
 derivs.

RL: DEV (Device component use); USES (Uses)  
 (electrolyte compn. for photosensitized solar cell and method  
 of fabricating photosensitized solar cell)

IT 141460-19-7 330628-13-2

RL: DEV (Device component use); TEM (Technical or engineered material  
 use); USES (Uses)

(electrolyte compn. for photosensitized solar cell and method  
 of fabricating photosensitized solar cell)

IT 7553-56-2, Iodine, uses 24969-06-0 27815-35-6, Epibromohydrin polymer  
 37275-48-2, Bipyridyl 54972-96-2, Diiodopropane

RL: MOA (Modifier or additive use); USES (Uses)

(electrolyte compn. for photosensitized solar cell and method  
 of fabricating photosensitized solar cell)

IT 29256-90-4, Diaminocyclohexane 83343-61-7, Dibromohexane 330628-22-3D,  
 bromoalkyl esters

RL: TEM (Technical or engineered material use); USES (Uses)

(electrolyte compn. for photosensitized solar cell and method  
 of fabricating photosensitized solar cell)

L7 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:50140 CAPLUS

DOCUMENT NUMBER: 132:95793

TITLE: **Electrolyte**, photoelectric conversion device  
 and photoelectrochemical cell

INVENTOR(S): Hiroo, Takizawa

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 57 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 973181	A1	20000119	EP 1999-113723	19990713
EP 973181	B1	20021009		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000036332	A2	20000202	JP 1998-219777	19980717
JP 2000100486	A2	20000407	JP 1998-286006	19980921
AT 225982	E	20021015	AT 1999-113723	19990713

PRIORITY APPLN. INFO.: JP 1998-219777 A 19980717  
 JP 1998-286006 A 19980921

OTHER SOURCE(S): MARPAT 132:95793

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI **Electrolyte**, photoelectric conversion device and  
 photoelectrochemical cell

AB An **electrolyte** contains as solvent .gtoreq.1 compd. selected  
 from a compd. represented by formula (I), where R1 and R2, which may be  
 the same or different, each represent an alkyl group, an alkenyl group or  
 an aryl group, R3 represents a cyano group, an alkoxycarbonyl group, an  
 acyloxy group, a carbonamido group, a phosphoric acid group, a phosphono  
 group, a phosphino group, a sulfonamido group, a sulfamoyl group, a  
 sulfoxide group, a sulfone group, a sulfonyl group, a nitro group, an  
 alkoxy group, an aryloxy group or a hydroxyl group; E represents a single

bond, an alkylene group, an alkenylene group, or an arylene group; and n, m, and p represent 0 or 1, and a compd. represented by formula R4-D-E-R3 where R3 and E are as defined above; R4 represents a heterocyclic group or an alkyl or aryl group having a heterocyclic group; and D represents -O-, -OC(O)-, or -OC(O)O-.

ST solar photoelectrochem cell **electrolyte**

IT Electrolytes

Gelation agents

Photoelectric devices

Photoelectrochemical cells

Polymer electrolytes

(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT Fluoropolymers, uses

RL: DEV (Device component use); USES (Uses)

(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT Gels

(**electrolyte**; **electrolyte**, photoelec. conversion device and photoelectrochem. cell)

IT 631-40-3, Tetrapropylammonium iodide 3699-67-0 4743-28-6 10123-62-3

10377-51-2, Lithium iodide 13463-67-7, Titania, uses 14354-67-7

14494-42-9 24937-79-9 25014-41-9 65039-05-6 80530-93-4

99837-92-0 110067-66-8 126662-48-4 148353-34-8 148417-29-2

148497-17-0 178555-82-3 178631-05-5 183552-29-6 **183889-37-4**

201004-31-1 212840-68-1 220865-60-1 220870-47-3 230307-80-9

230307-81-0 230307-84-3 230307-87-6 233269-24-4 **254441-77-5**

254441-79-7 254441-81-1 254441-83-3 254441-85-5 254441-86-6

254441-87-7 254453-67-3

RL: DEV (Device component use); USES (Uses)

(**electrolyte**, photoelec. conversion device and photoelectrochem. cell)

L7 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:427215 CAPLUS

DOCUMENT NUMBER: 131:90194

TITLE: Photoelectric converters and photoelectrochemical cells thereof

INVENTOR(S): Shirato, Kentaro; Yanagida, Shozo; Shirai, Hiroyoshi; Hanabusa, Kenji

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 11185836	A2	19990709	JP 1997-363503	19971216
AB	The photoelec. converters have a conductive substrate, a layer of semiconductor particles contg. adsorbed dye on the substrate, a gel <b>electrolyte</b> , and a counter electrode; where the gel <b>electrolyte</b> contains an <b>electrolyte</b> and a gelling agent having mol. wt. .ltoreq.1000. The salts are selected from metal iodide, quaternary ammonium iodide, quaternary imidazolium iodide, quaternary pyridinium iodide, metal bromide, quaternary ammonium bromide, S compds.,, viologen dye, and hydroquinone-quinone.				
ST	photoelectrochem cell pigment semiconductor particle; quaternary onium salt <b>electrolyte</b> photoelectrochem cell; gel <b>electrolyte</b> photoelectrochem cell				
IT	106-14-9	105900-20-7	134589-34-7	159142-29-7	182246-24-8
	183156-26-5	183624-78-4	189299-30-7	230307-92-3	230307-93-4

230307-95-6 230307-96-7

RL: DEV (Device component use); USES (Uses)

(**electrolyte** gelling agents for photoelectrochem. cells with  
dye adsorbed semiconductor electrodes)

L7 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:213652 CAPLUS

DOCUMENT NUMBER: 126:271365

TITLE: Stabilization of copper(III) complexes by  
disubstituted oxamides and related ligands

AUTHOR(S): Ruiz, Rafael; Surville-Barland, Celine; Aukauloo,  
Ally; Anxolabehere-Mallart, Elodie; Journaux, Yves;  
Cano, Joan; Munoz, M. Carmen

CORPORATE SOURCE: Laboratoire de Chimie Inorganique, URA 420, CNRS,  
Universite de Paris-Sud., Orsay, 91405, Fr.

SOURCE: Journal of the Chemical Society, Dalton Transactions:  
Inorganic Chemistry (1997), (5), 745-751  
CODEN: JCDBTBI; ISSN: 0300-9246

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The electrochem. behavior of a family of monomeric copper(II) complexes of  
the related tetraanionic chelating ligands N,N'-o-phenylenebis(oxamate)  
(L1) and its methylamide (L2) and bis(methylamide) (L3) was investigated  
by cyclic voltammetry in acetonitrile at 25.degree. and 0.1 mol dm<sup>-3</sup>  
NET4ClO<sub>4</sub> as supporting **electrolyte**. The copper(III)-copper(II)  
redn. potentials span a potential range from +0.41 to -0.02 V (vs. SCE),  
being reversible for all cases except the copper(II)-L1 complex. The  
trend in formal potentials along this series is explained in terms of the  
stronger donor properties of the deprotonated-amido nitrogen atoms than  
those of the carboxylate oxygen ones. Hence, the stabilization of the  
trivalent oxidn. state of copper is attributed to the increasing no. of  
deprotonated-amido donor groups. A perfect correlation was obsd. within  
this family between the CuIII-CuII potentials and the visible absorption  
maxima of the copper(II) complexes. The relative gain in crystal-field  
stabilization energy for the change from the d<sup>9</sup> (CuII, square planar) to  
the low-spin d<sup>8</sup> (CuIII, square-planar) electronic configuration is the  
main factor in the overall thermodyn. stability of the copper(III)  
complexes. The mol. structure of the stable copper(III) complex  
[PPh<sub>4</sub>][CuL<sub>3</sub>].MeCN was detd. by single-crystal x-ray anal. The metal is in  
a nearly square-planar environment formed by the four amido nitrogen atoms  
of the chelating ligand, with short Cu-N bond distances (1.84-1.88 Å)  
typical of trivalent copper.

IT 74-89-5, Methylamine, reactions 119935-81-8, Diethyl

N,N'-o-phenylenebis(oxamate)

RL: RCT (Reactant); RACT (Reactant or reagent)

(for prepn. of copper phenylenebis(oxamato/oxamidato) complexes)

IT 188727-93-7P 188727-95-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(for prepn. of copper phenylenebis(oxamato/oxamidato) complexes)